

CITY OF SAN ANTONIO

METROPOLITAN HEALTH DISTRICT

Adverse Childhood Experiences (ACEs)

Colleen M. Bridger, MPH, PhD

Director

10 Things to Know about ACEs

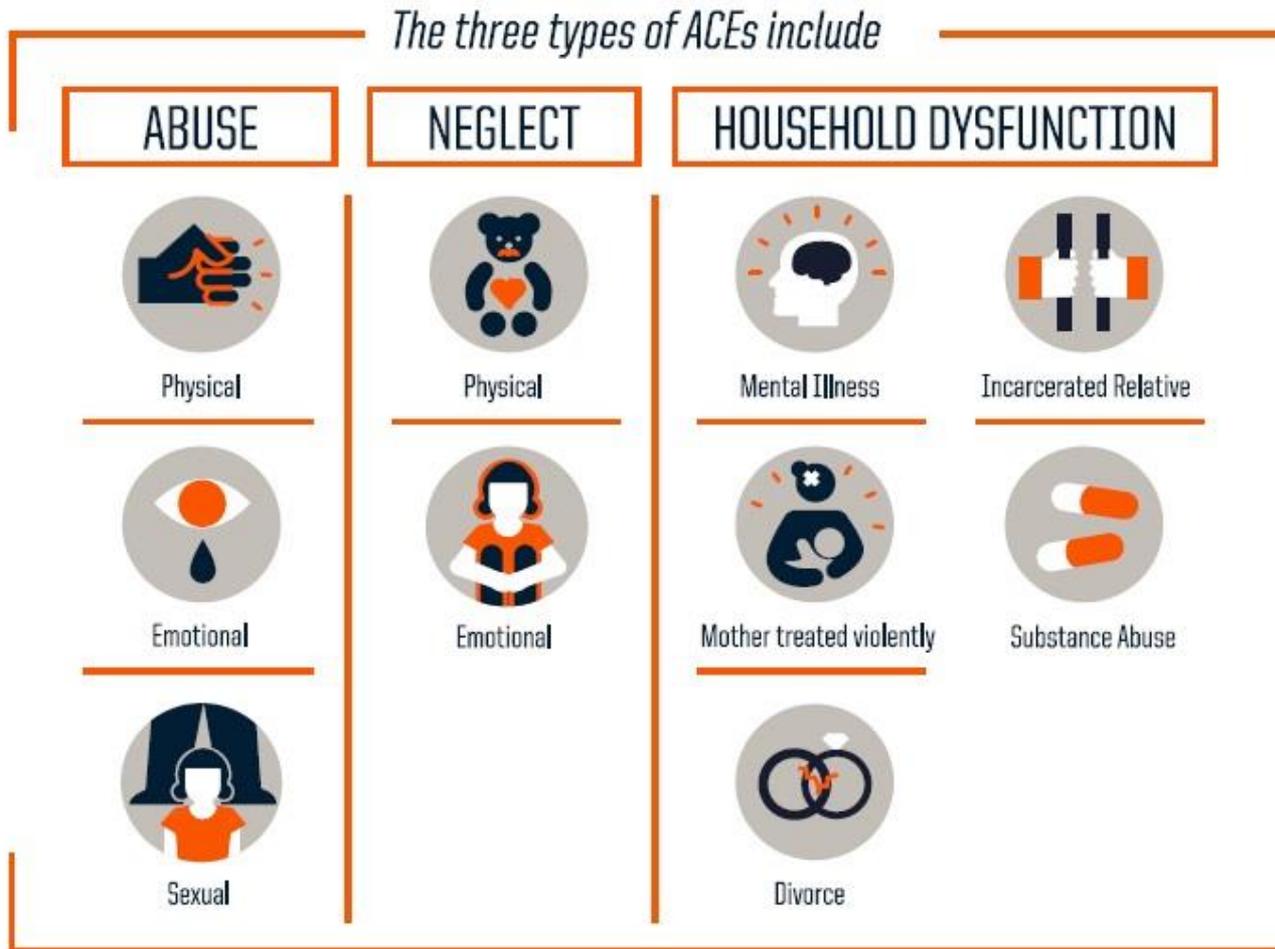
THE TRUTH ABOUT ACEs

WHAT ARE THEY?

ACEs are
ADVERSE
CHILDHOOD
EXPERIENCES

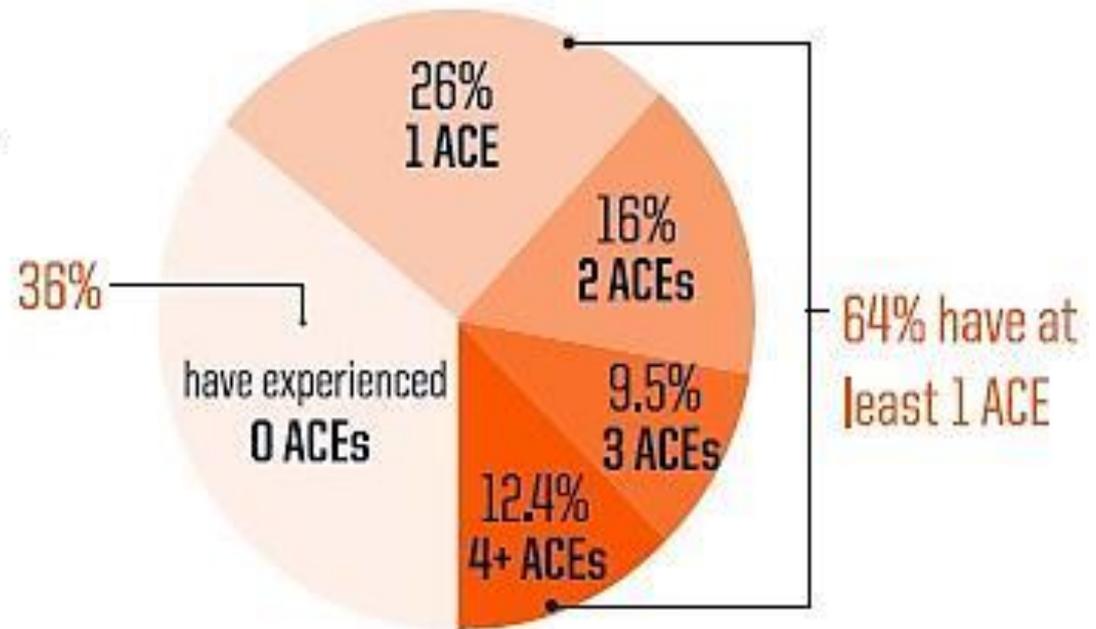
Graphic: Robert Wood Johnson
Foundation, rwjf.org/aces

1. Scored with a 10-question quiz



2. ACEs are common

*Of 17,000 ACE
study participants:*



Graphic: Robert Wood Johnson Foundation, rwjf.org/aces

3. ACEs cause toxic stress

Positive Stress

(ex. getting a shot)
Brief. Part of healthy development.



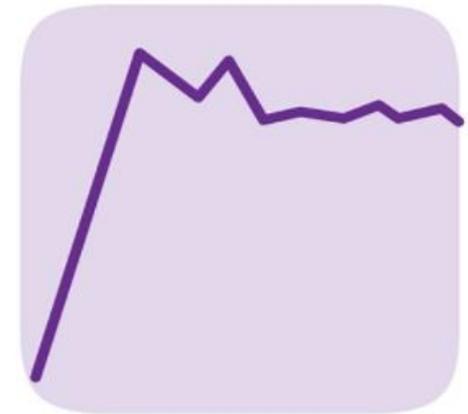
Tolerable Stress

(ex. death in family)
More severe.
Buffered by adult support



Toxic Stress

(ex. chronic neglect)
Strong, frequent and/or prolonged adversity, without enough adult support



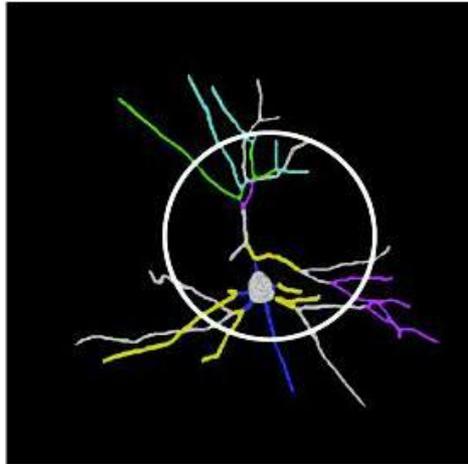
Graphic: kaboom.org

4. Toxic stress harms brain architecture

- Children’s brains that are constantly bathed in “fight or flight” hormones start to wire differently
- Neutral facial expressions may be interpreted as threatening
- Fewer connections grow in “reasoning” section of brain
- Weaker impulse control, shorter attention spans



Typical neuron:
many connections



Neuron damaged by toxic stress:
fewer connections

Image: Orion Children International

5. ...and the rest of the body too

- Chronic stress sends white blood cells into overdrive (chronic inflammation)
- Common unhealthy responses to toxic stress: smoking and alcohol abuse

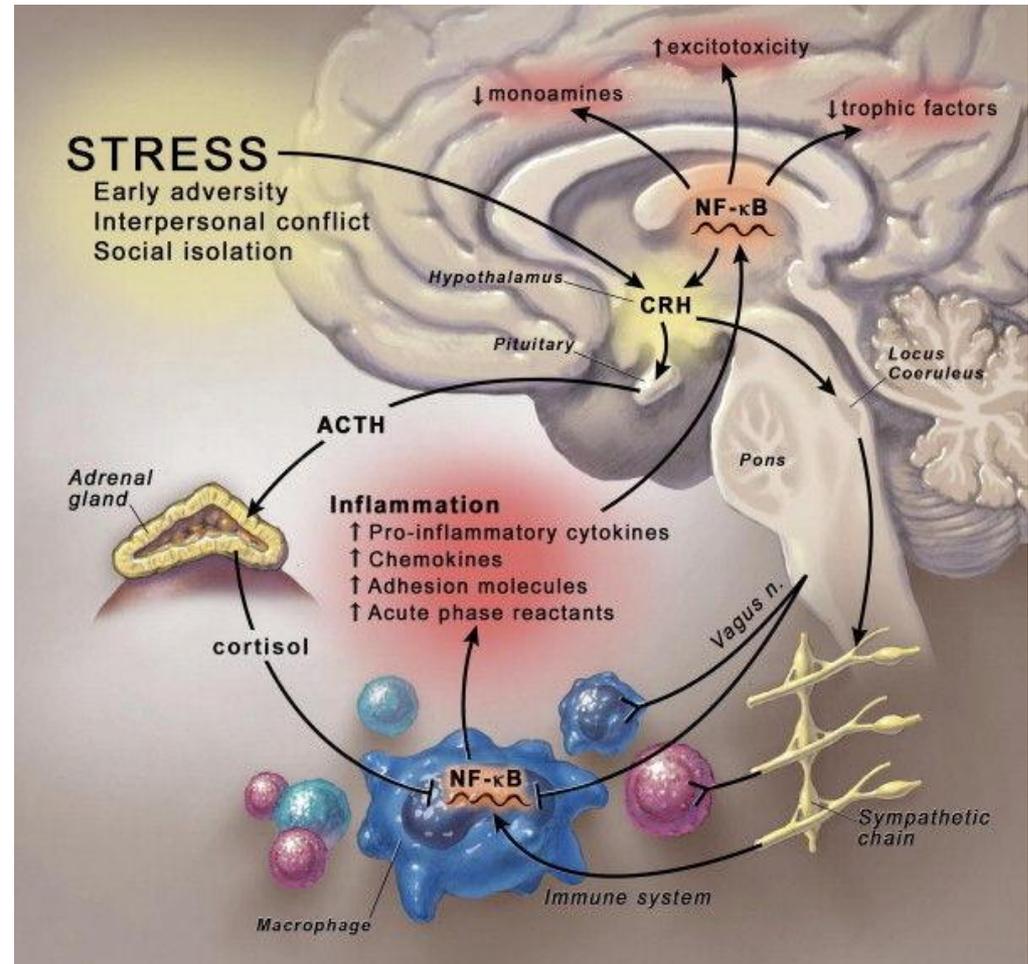


Image: Miller et al., *Biol Psychiatry* 2009;65:734

6. This has broad impacts

ACES can have lasting effects on....



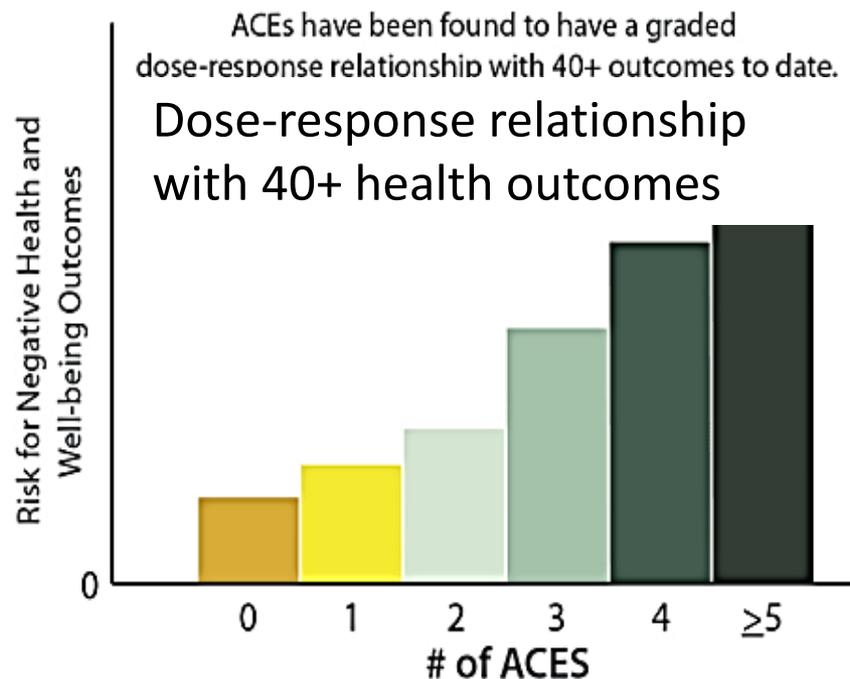
Health (obesity, diabetes, depression, suicide attempts, STDs, heart disease, cancer, stroke, COPD, broken bones)



Behaviors (smoking, alcoholism, drug use)



Life Potential (graduation rates, academic achievement, lost time from work)



Graphic: Centers for Disease Control and Prevention

ACEs dramatically increase risk for 7 out of 10 leading causes of death

	Leading Cause of Death in US, 2015	Odds Ratio
1	Heart disease	2.2
2	Cancer	1.9
3	Chronic lower respiratory diseases	3.9
4	Accident	
5	Stroke	2.4
6	Alzheimer's	4.2
7	Diabetes	1.6
8	Influenza and Pneumonia	
9	Kidney disease	
10	Suicide	12.2

Odds Ratios associated with 4 ACEs (CDC 2015, Felitti 1998)
Data: Nadine Burke Harris/Center for Youth Wellness

ACEs dramatically increase risk for 7 out of 10 leading causes of death

	Leading Cause of Death	Odds Ratio
1	Heart disease	2.2
2	Cancer	1.9

Without intervention, there can be a 20-year difference in life expectancy

7	Diabetes	
8	Influenza and Pneumonia	
9	Kidney disease	
10	Suicide	12.2

Trauma is common among adults and children in social service systems.

98%

of **female offenders** have **experienced trauma**, often interpersonal trauma and domestic violence



96%

of adolescent psychiatric inpatients have histories of **exposure to trauma**



93%

of **homeless mothers** have a **lifetime history of interpersonal trauma**



90%

of **juvenile justice-involved youth** have experienced trauma, often **multiple traumas from an early age**



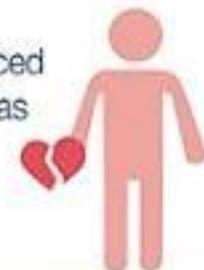
75%

of **adults in substance abuse treatment** report histories of trauma



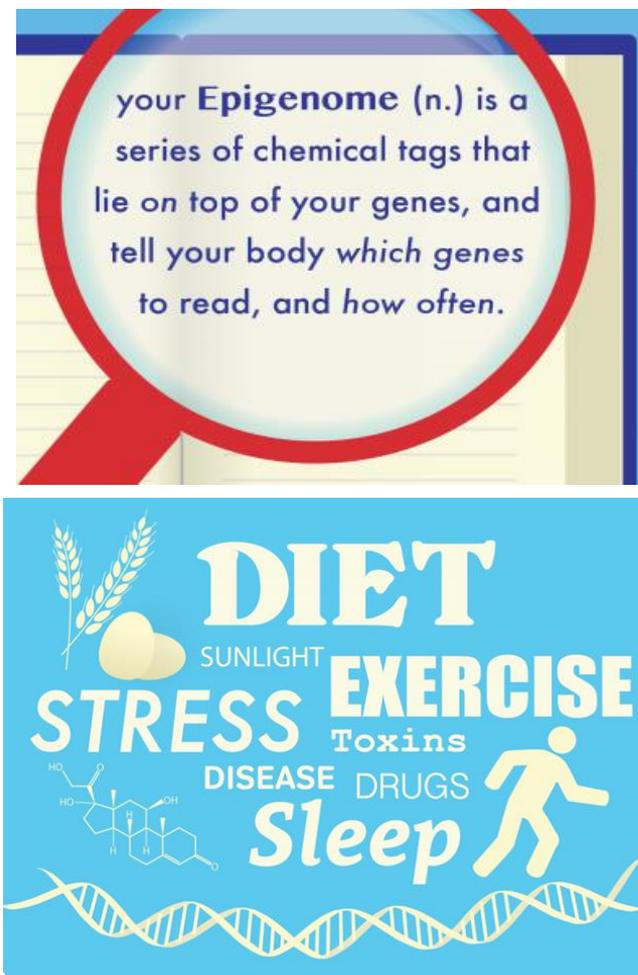
70%

of **children in foster care** have experienced **multiple traumas**



7. Effects may last generations

- Trauma changes our cells on a deep level (the *epigenome*)
- So do diet, exercise, lack of sleep, more
- Epigenes affect how likely we are to suffer some illnesses
- Can epigenetic changes from trauma be passed on to children and grandchildren? Stay tuned



8. We can overcome high ACEs

- **Good news:** Trauma-induced changes (including epigenetic changes) are reversible
- The brain is plastic, and the body wants to heal

*Trauma-informed care shifts the focus from:
‘What’s wrong with you?’ to
‘What happened to you?’*

Case Study: Walla Walla, WA



After four years of a trauma-informed approach at Lincoln High School:

- Suspensions dropped 90%
- Zero expulsions
- Grades and graduation rates surged

Regardless of ACE score,
teens with **resilience** thrived

9. How to create resilience

- Reducing adversity
- Safe, stable and nurturing relationships and environments
- Sleep
- Exercise
- Nutrition
- Mindfulness
- Mental health



Photo: Thinkstock

10. How communities can help

- Raise awareness about ACEs
- If you work with children, screen for ACEs
 - Early detection allows prompt intervention
- Reduce adversity and support caretakers
 - Home visiting programs
 - Mental healthcare
 - Two-generation interventions
 - Social work
- Create safe and connected communities

How Brains are Built



<https://www.youtube.com/watch?v=LmVWOe1ky8s>

Resources

- [VetoViolence.cdc.gov](https://www.vetoviolence.cdc.gov)
- [AcesTooHigh.com](https://www.aces-too-high.com)
- [CommunityResilienceCookbook.org](https://www.communityresiliencecookbook.org)
- Mobile-friendly [ACE quiz](#) on NPR.org website

Thank you!



Colleen.bridger@sanantonio.gov

210-207-8731



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